## ARM based Digital Signage Player

The Digital Signage Player DSA2LS comes in a robust 1-litre metal chassis and is powered by a Freescale ARM® Cortex™-A9 i.MX6 Dual Core processor with a fanless cooling. Its built-in 2D/3D GPU allows for connecting one Full HD display. Furthermore, the device also sports a Gigabit-LAN interface and Wireless-LAN for access from remote while the integrated SD card reader can be used for storage expansion. In additon, several USB ports and one serial port are available to connect peripheral devices. The audio signal is either put out by the line-out port or led digitally through HDMI. The DSA2LS is approved for 24/7 nonstop operation and is a cost-effective solution for digital signage applications whose power consumption is around only 4 Watt in idle mode.

## Digital Signage Player

**DSA2LS**

### Feature Highlights

| | |
|---|---|
| *Slim Design* | • Slim 1-litre chassis, black, 0.8mm steel<br>• Dimensions: 190 x 142 x 35 mm (LWH)<br>• Hole for a Kensington Lock<br>• Supplied VESA mount (75x75 or 100x100) |
| Operating System | • Android 4.2.2 (Jelly Bean) |
| Processor | • Freescale i.MX 6 DualLite Processor 2x 1 GHz Dual Core, ARM Cortex-A9<br>• Fanless cooling design |
| Storage | • 1 GB DDR3 DRAM<br>• 4 GB Flash Memory (2.4 GB available)<br>• SD card reader |
| Video Support | • 2D/3D Hardware Graphics Accelerator<br>• Supports either one Full HD 1080p display or dual-monitoring at 720p resolution. |
| Connectors and Buttons | • Video: HDMI and D-Sub/VGA<br>• USB: 3x USB 2.0 Host, 1x Mini-USB<br>• Audio: Line-out<br>• SD Card Reader, supports max. 64 GB<br>• RS232 Serial Port<br>• Network: RJ45 Gigabit LAN and Wireless-LAN (802.11n) with external antenna<br>• Power Button with LED, Recovery Button Supports “Always On” function |
| Power Supply | • Internal power supply 100-240V AC, 10W |
| Applications | • Optimised for Digital Signage applications<br>• Approved for 24/7 permanent operation |

freescale™

nonstop 24/7

RS232

Full HD 1920x1080

Wi Fi

LAN

8 11686 00671 8

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## DSA2LS Connectors

**1** Mini-USB 2.0

**2** 3x USB 2.0

**3** SD Card Reader (concealed)

**4** Power Button with LED

**5** Hole for Kensington Lock

**6** W-LAN Connector/Antenna

**7** D-Sub / VGA Video

**8** Audio Line-out

**9** HDMI Video/Audio

**10** RS232 Serial Port

**11** RJ45 Gigabit-LAN

**12** Restore Button

**13** AC Power Connector (3-pin)

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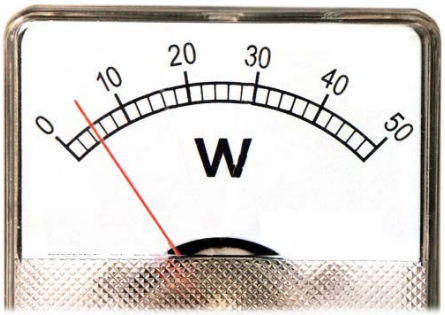
# Feature Highlights

## 24/7 nonstop operation at 45°C

The Shuttle DSA2LS is officially approved for 24/7 permanent operation. Thanks to its low power consumption and completely passive cooling, this PC runs highly stable making it perfectly suitable for digital signage and POI/POS applications - even at ambient temperatures of up to 45°C.

## No fan noise

The Shuttle DSA2LS comes totally fanless making it perfect to be used in noise-sensitive environments such as living rooms, hospitals, libraries etc. As an additional benefit, fanless cases rarely gather dust on the inside and stay cleaner than ones with a fan. In other words, not only is it quiet and low in energy use, but also dust-free and virtually maintenance-free.




## Energy-saving

Power consumption mainly depends on system load. The system consumes about 4.2W in idle mode and 6.3W under load (AnTuTu benchmark). Running the device permanently under load would mean an annual consumption of 55 kWh or just 14 Euros on the power bill (25 Euro ct/kWh).

## High-quality metal chassis

The digital signage player DSA2LS is built around a robust metal chassis with a resistant powder-coating. The steel used is of 0.8mm thickness just like it is used for body construction for example. Not only this ensures the material withstands high loads of professional applications, it also makes it secure to mount with the included VESA mount.

## Internal Power Supply

An internal power supply prevents from cable clutter which is essential especially for professional applications. Hence the DSA2LS features a compact, built-in power supply.

freescale™

Full HD
1920x1080

## Freescale ARM unterstützt Full HD Video

The Shuttle DSA2LS is equipped with a Freescale i.MX 6 DualLite (i.MX6DL) dual core processor based on the ARM® Cortex™-A9 architecture which offers a good balance of computing power and graphics performance. The integrated hardware graphics accelerator either supports playback of 1080p Full HD content on one monitor or two videos at 720p across two displays in clone mode.

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## Dual Monitoring Support

As outlined above, the integrated graphics supports multiple displays. Options include HDMI (DVI through optional adapter) and D-Sub/VGA. Viewing content on separate monitors helps improve on capability and productivity.

## Power Failure Recovery

The DSA2LS offers an auto recovery feature toprotect content in the event of a total power failure. If power is cut, memory data is „parked“ and restored when power is applied again. This avoids the risk of data corruption.

## Protected Card Reader

The SD card reader is hidden behind a screw-retained plastic cover to prevent it from theft and other unwanted access.

## VESA Mount

The supplied 75/100mm VESA mount allows the DSA2LS to be installed on to walls or just to be affixed on the rear side of a monitor which is particularly interesting for the industry segment, company buildings, public institutions and Digital Signage applications.

## Auto Power-On

Dual Power Sequences: In addition to power switch, the auto power-on feature allows the system to start up automatically when power is applied.

Meaning of the DIP switches:
P: Force Auto Power ON (Default : OFF)
V: Force VGA output ON (Default: OFF)

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# Shuttle DSA2L Specifications

| | |
|---|---|
| *Chassis* | Robust black metal chassis made of 0.8mm thick steel<br>Dimensions: 190 x 142 x 35 mm (LWH) = 0,94-litre<br>Weight: 0.7 kg net, 1.4 kg gross<br>Hole for Kensington Lock at the side of the chassis<br>Supplied VESA mount supports 75x75 mm and 100x100 mm VESA standands |
| *Operation System* | Android 4.2.2 (Jelly Bean) |
| *Processor* | Freescale i.MX 6 DualLite (i.MX6DL)<br>based on the ARM® Cortex™-A9 architecture<br>2x 1 GHz (Dual Core), 512 KB L2 cache<br>Integer computing performance: 5000 DMIPS<br>NEON SIMD media accelerator per Core<br>Program Flow Trace Macrocell (PTM) per Core |
| *Cooling* | Fanless Cooling Design |
| *Graphics engine* | Dual 2D/3D Hardware Graphics Accelerators<br>Support single FullHD 1080p or dual 720p resolution in clone mode<br>Two video outputs: HDMI (supports digital audio) and D-Sub/VGA<br>Supported video decoding standards:<br>MPEG2, H.264, MPEG4/ Xvid DivX H.264, AVI/ Xvid H264 MJPEG, MOV/ H.264<br>Note: Supported decoding formats may vary according to different media player application. |
| *DRAM Memory* | 1 GB DDR3 |
| *Flash Memory* | 4 GB eMMC (embedded Multimedia Card)<br>~2.4 GB available memory in delivery state |
| *Ethernet Network (LAN)* | Gigabit Ethernet via RJ45 connector<br>Ethernet PHY chip: Atheros AR8033<br>10/100/1000BASE-T IEEE 802.3 compliant<br>Support IEEE802.3az (Energy Efficient Ethernet)<br>Automatic MDI/MDIX crossover and polarity correction<br>Supports Wake-on-LAN (WOL) event detection [2]<br>Note: Ethernet and WLAN cannot be activated at the same time |

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|---|---|
| *Wireless LAN (WLAN)* | WLAN module: Chicony XW704T, chipset: Realtek RTL8192CU<br>1 transmit and 1 receive path (1T1R)<br>20MHz and 40MHz bandwidth transmission<br>Supports IEEE 802.11 b/g/n<br>Maximum PHY data rate: up to 150 Mbps<br>Supports WPA/WPA2 security protocols in accordance to IEEE 802.11i<br>Note: Ethernet and WLAN cannot be activated at the same time |
| *Front Panel Connectors* | 1x Mini-USB 2.0 (Mini-B type, device mode) **[4]**<br>3x USB 2.0 (A type, host mode) - all ports together max. 500 mA **[1]**<br>1 x SD card reader (concealed), supports max. 64 GB |
| *Button & LED (Front Panel)* | Power button with LED indicator:<br>Power button functions:<br>- Device on: press over 1 second<br>- Suspend mode / Resume: press in the normal way<br>- Device off: press over 1 second<br>- Device force off: press over 10 seconds<br>LED behaviour:<br>- Red Static ON: Booting error<br>- Blue Blinking: System is booting<br>- Blue Static ON: System is ready |
| *Back Panel Connectors* | 1 x HDMI 1.4 supports Digital Audio<br>1 x D-Sub VGA<br>1 x Audio Line-out<br>1 x D-Sub RS232 Serial Port<br>1 x RJ45 Gigabit Ethernet Network<br>1 x Restore Button **[3]**<br>1 x AC power input (3-pin)<br>1 x Connector for external Wireless-LAN antenna |
| *Power Supply* | Internal power supply<br>Input: 100~240V AC, max. 0.3 A, 50-60 Hz<br>3-pin AC power cord, length: around 1.8 m<br>Angled Euro Plug (Schuko, Type F) and Cloverleaf (Type C5)<br>(The type of plug depends on the region of purchase)<br>Output: 5V, max. 2A, max. 10W |
| *Scope of Delivery* | Multi-language user guide<br>VESA mount for 75/100mm standard (two metal brackets)<br>Four thumbscrews M3 x 5 mm (screws together VESA mount and PC)<br>Four screws M4 x 10 mm (to fix the VESA mount to the external device)<br>Power cord (cable length ca. 1.8 m)<br>WLAN antenna (total length: ca. 107 mm, angled: 85 mm) |
| *Low Power Consumption* | Off mode: 0.19 W<br>Standby mode: 1.42 W<br>Idle mode: 4.22 W<br>Load (AnTuTu v4.4 benchmark): 6.25 W |

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|---|---|
| *Environmental Specifications* | Operating temperature range: 0~45 °C<br>Relative humidity, non-condensing: 10~95% |
| *Conformity Certifications* | CE, FCC, C-TICK, CCC, BSMI, CB, ErP Lot6, R&TTE |

**[1]** Notice: all USB ports combined provide a maximum current of 500 mA. If the USB devices connected exceed this limit, external power supplies are required.
**[2]** Wake-on-LAN (WOL) is an Ethernet computer networking standard that allows a computer to be turned on or awakened by a network message. This message is a specially designed packet called a magic packet, which contains the MAC address of computer to be woken up. A MAC address (media access control address) is a unique identifying number built into each network interface card ("NIC"), that enables it to be uniquely recognized and addressed on a network. You will find the MAC address of DSA2LS on a sticker attached to the bottom of the chassis.
**[3]** The restore button (equally to "Volume Down") can be accessed through a small hole in the back panel. Similar to other Android devices, the restore button can be pressed simultaneously with the power button to enter the Android system recovery menu. This allows for rebooting the system, performing a firmware update (image) or setting the system back to its factory settings. Please be aware of the latter will delete any personal information and remove any custom-installed programs. We therefore highly recommend to backup any personal data before starting this procedure. Please refer to the FAQ section on the Shuttle website for additional information.
**[4]** Use its Mini-B USB connector to connect the DSA2LS to a PC and to access the available Flash memory as an external drive. To do so, a USB adapter cable with two connectors, standard-A to mini-B, is required.

Top view: Shuttle DSA2LS without chassis cover

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